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One Size May Not Fit All: How Obesity Among Mexican-Origin Youth Varies by Generation, Gender, and Age

Michelle L. Frisco[1] · **Susana Quiros**[1] · **Jennifer Van Hook**[1]

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Abstract Immigrants' health (dis)advantages are increasingly recognized as not being uniform, leading to calls for studies investigating whether immigrant health outcomes are dependent on factors that exacerbate health risks. We answer this call, considering an outcome with competing evidence about immigrants' vulnerability versus risk: childhood obesity. More specifically, we investigate obesity among three generations of Mexican-origin youth relative to one another and to U.S.-born whites. We posit that risk is dependent on the intersection of generational status, gender, and age, which all influence exposure to U.S. society and weight concerns. Analyses of National Health and Nutrition Examination Studies (NHANES) data suggest that accounting for ethnicity and generation alone misses considerable gender and age heterogeneity in childhood obesity among Mexican-origin and white youth. For example, second-generation boys are vulnerable to obesity, but the odds of obesity for first-generation girls are low and on par with those of white girls. Findings also indicate that age moderates ethnic/generational differences in obesity among boys but not among girls. Overall, ethnic/generational patterns of childhood obesity do not conform to a "one size fits all" theory of immigrant health (dis)advantage, leading us to join calls for more research considering how immigrants' characteristics and contexts differentially shape vulnerability to disease and death.

Keywords Childhood obesity · Epidemiological paradox · Immigrant vulnerability · Immigrant health · Children of immigrants

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✉ Michelle L. Frisco
mlf112@psu.edu

[1] Department of Sociology and Criminology & Population Research Institute, Penn State University, 211 Oswald Tower, University Park, PA 16803, USA

Introduction

How healthy are Mexican immigrants and their children? Historically, evidence pointed to an epidemiological paradox. Given their low socioeconomic status, Hispanic immigrants have better health outcomes than expected. Their health is similar to or better than that of U.S.-born whites (hereafter "whites"), the most socioeconomically and health-advantaged racial group in the United States, and better than blacks who are also socioeconomically disadvantaged (e.g., Hummer et al. 2007; Markides 1986). This finding is most clearly documented for Mexican-origin immigrants (Hamilton 2015) and is most consistently observed for mortality and among older Mexican Americans (Markides and Eschbach 2005).

Less consistent evidence for the paradox is observed for children. One notable example is the literature regarding childhood obesity. Evidence from nationally representative studies about whether Hispanic children in immigrant households are better protected from obesity than U.S.-born peers is mixed.[1] Some studies have found that first-generation Hispanic adolescents are as lean as whites and leaner than second-generation and third-plus-generation coethnic peers (Popkin and Udry 1998) because of differences in acculturation, diet, and physical (in)activity (Gordon-Larsen et al. 2003). Other studies of younger children of immigrants (not exclusively Hispanic) have found that they are vulnerable to obesity relative to children of natives (e.g., Baker et al. 2015; Balistreri and Van Hook 2011; Van Hook and Baker 2010). Yet, other studies have found no generational differences in obesity among preschoolers (not exclusively Hispanic) (Li et al. 2011) and Hispanic 10- to 17-year-olds (Hamilton et al. 2011; Liu et al. 2009).

A better understanding of whether and which Hispanic children in immigrant households are vulnerable to or protected from obesity relative to coethnic and white U.S.-born peers is critical given the growing proportion of children in Hispanic immigrant households (Child Trends 2014). We seek to address this goal by asking whether ethnicity/generation, gender, and age—which all shape young people's social integration and exposure to the obesogenic nature of U.S. society—intersect in ways that influence vulnerability to and protection from the risk of obesity.

The study makes three primary contributions to the literature. First, although gender differences have been observed in children of immigrants' body mass index (BMI) and weight gain (Balistreri and Van Hook 2011; Van Hook and Baker 2010), these studies have not distinguished first- and second-generation immigrant children or children from different national-origin groups. We make these contributions by decoupling children into first- and second-generation immigrants and by focusing on a single national-origin group of children in immigrant households: Mexican-origin youth. We also move beyond previous studies by considering whether age and gender combine to shape ethnic and generational patterns in children's obesity risk. To our knowledge, previous nationally representative research has not explored this possibility. Finally, our broader, more general contribution is using childhood obesity as a case in point to explore whether heterogeneity in the U.S. immigrant experience shapes immigrants' protection from and vulnerability to U.S. health risks. In essence, theoretical

[1] In the literature, definitions of generational status differ, and variations exist in the age and ethnicity of focal children studied and measurements of children's weight. These differences may contribute to mixed findings.

perspectives on population-level processes are keenly important for understanding how migration and assimilation generally shape immigrants' health and U.S. health disparities, but we recognize that "one-size-fits-all" explanations of immigrant health (dis)advantages may overlook important variation in the contours of immigrants' lives that shape within-group variation in immigrants' health risks.

Our study analyzes data from a nationally representative sample of first-, second-, and third-plus-generation Mexican-origin youth and U.S.-born white youth. By focusing on whites and Hispanic youth from one country of origin, we can make cleaner ethnic and generational comparisons than if we were to study U.S. children of immigrants from different sending countries with diverse patterns of economic development, obesity prevalence, and diets. Directing attention to Mexican-origin youth is also warranted because they are the largest group of children in immigrant households in the United States (Child Trends 2014). Mexican-origin youth in both the United States (Ogden et al. 2012) and Mexico (OECD 2014) also have a very high obesity prevalence. Furthermore, although our analysis focuses on Mexican-origin children in the United States, previous research on children in Mexico suggests that those living in households with migrant networks are at increased risk for childhood obesity (Creighton et al. 2011); yet, other research indicates that Mexican children with the highest propensity for U.S. migration are leaner than peers with a low migration propensity (Van Hook et al. 2012). This makes it unclear whether to expect first-generation Mexican-origin youth in the United States to be leaner or heavier than coethnic and white peers.

Background

There are substantive reasons to expect gender and age to be important for understanding generational patterns of obesity among Mexican-origin children relative to each other and U.S.-born whites. Separately and in combination, both gender and age shape children in immigrant households' social integration and exposure to a "default American lifestyle," whereby deliberate effort is necessary to avoid adopting unhealthy normative U.S. behaviors, including poor diets and sedentary activities (Mirowsky and Ross 2015).

Gender circumscribes children's experiences in immigrant households in ways that limit girls' social integration and exposure to the default American lifestyle. Girls in Mexican-origin immigrant families grow up in more protected environments than boys (Bean et al. 2015), and girls in immigrant households have more limited personal freedom and more familial responsibilities than boys (Bean et al. 2015; Valenzuela 1999). Conversely, boys in immigrant households more freely interact with peers and nonfamilial social institutions (Martinez 1999). This differential exposure to society and food choices leads to our first set of research expectations. We anticipate that between-gender differences in obesity will be greater among children of Mexican immigrants than among either third-plus-generation Mexican-origin youth or white youth, and that between-gender differences could be most pronounced among the first generation because both parents and children are newcomers to the United States.

Gender also shapes weight concerns. Girls are more preoccupied with thinness than boys (Field et al. 2001), and parents have fewer weight concerns about sons versus daughters (Maynard et al. 2003). Furthermore, among Mexican Americans, girls are

more likely than boys to correlate thinness with attractiveness, and girls with more (versus less) acculturated mothers are more likely to equate thinness with an ideal body figure (Olvera et al. 2005).

The combination of what is known about gendered weight concerns and gendered patterns of exposure to U.S. society among children of immigrants leads to research expectations about within-gender differences in obesity by generation and ethnicity. For example, Mexican-origin girls in immigrant households experience less exposure to U.S. society than third-plus-generation Mexican-origin and white girls, but these more acculturated girls are also more likely to be preoccupied with thinness. These two processes may work in tandem to keep differences in obesity by ethnicity and generation small among girls. Conversely, among Mexican-origin boys in immigrant households, the effects of increased U.S. exposure along with a lack of weight concerns may compound each other. Thus, we expect that first- and second-generation immigrant boys are quite vulnerable to obesity. More generally, we expect that ethnic and generational differences in obesity may be large among boys.

The age of Mexican-origin children in immigrant households is also likely to influence vulnerability to and protection from obesity relative to same-aged third-plus generation and white youth. In general, all younger children have less exposure to the world beyond their households than do older children. This age difference is particularly true among children in immigrant households given that young children of immigrant mothers are more likely to be cared for by family members and are less likely to be enrolled in preschool than are children of U.S.-born mothers (Magnuson et al. 2006).

Conversely, school-aged immigrant children have more exposure to U.S. society, American eating habits, and the default American lifestyle through schools and the new peers they meet there because schools are powerful agents of socialization. For children in immigrant households, schools are also a primary social institution that both formally and informally acculturates students (Pong and Hao 2007). U.S. exposure increases with age and is greatest for adolescents. Given the previously cited literature regarding gendered patterns of freedom, indulgences, and weight concerns among children in immigrant households, older boys in immigrant households are likely to have even more freedom and exposure to U.S. society than are older girls. Thus, we anticipate that ethnic and generational differences in obesity will be wider among older boys than among younger boys. We do not anticipate the same wider disparities among older versus younger girls given the greater familial responsibilities and reduced freedom of girls in immigrant households alongside of greater weight concerns for girls that come with acculturation and reaching adolescence.

Method

Data and Sample

Data for this study are derived from Mexican-origin youth and white children of natives who participated in the National Health and Nutritional Examination Studies (NHANES; http://www.cdc.gov/nhanes), nationally representative, cross-sectional studies that include health and nutritional assessments of U.S. children and adults.

Mexican-origin youth are the only national-origin group that the NHANES explicitly identified. Mexican-origin youth are also the only national-origin group large enough to be disaggregated into three generations, making the NHANES an excellent data source for our analysis. We pool data across seven waves conducted from the turn of the century until the most recently released study (1999/2000–2011/2012), restricting analysis to 2- to 15-year-old white children of natives and Mexican-origin youth.[2] Female adolescents were excluded if they were pregnant when weight was assessed. Our sample includes 4,902 white, 737 first-generation Mexican-origin, 2,810 second-generation Mexican-origin, and 2,098 third-plus-generation Mexican-origin youth (N = 10,547).

In our sample, 8.4 % of respondents were missing data on at least one analytic variable, with income-to-poverty ratio being the variable with the most missing data (6.2 % of cases). We imputed missing data using the Stata 14.0 *MI* procedure, averaging empirical results across 10 imputation samples to account for random variation across samples to calculate standard errors (Royston 2005).

Measures

Obesity classifies children with BMI percentiles ≥95th as obese (Kuczmarski et al. 2002). It is based on clinical assessments of height and weight used to calculate age- and sex-specific BMI percentiles.

Ethnicity differentiates between white and Mexican-origin youth. *Generational status* distinguishes first-generation (foreign-born with foreign-born householder), second-generation (U.S.-born with foreign-born householder), and third-plus-generation (U.S.-born with U.S.-born householders) Mexican-origin children.

Gender (male versus female) and *age* are key study variables. We treat age- as a quadratic function (with a linear term and a squared term) because our preliminary analysis revealed nonlinear patterns of obesity by age. We tested a categorical measure of age, but the quadratic captured the relationship equally well.

Control variables include living with a *single female householder* (=1), *householder's age*, *householder's education* (no high school degree, a high school degree, some postsecondary education, or college completion), and household *income-to-poverty ratio*. The *survey year* when respondents were NHANES study participants, *interview language* (1 = Spanish), *mother's age at birth*, and *birth weight* (low < 2,500g; 2,500g ≤ normal ≤ 4,000g; high > 4,000g) are also controlled. Table 2 in the appendix shows descriptive statistics for all variables.

Methods

Analyses were conducted using Stata version14.0. Results were weighted and adjusted for study design effects to produce population representative estimates and to account for the NHANES sample design. We present estimates from logistic regression models for the total sample by ethnicity and generational status. Next, we

[2] Data from 16- to 19-year-olds were not analyzed because data on birth weight and mother's age at birth were not collected from them. Estimates from supplementary models including 16- to 19-year-olds were similar to those shown here, but not controlling for birth weight overstated differences between the first and second generations.

present analyses first by gender and then by gender and age to examine whether vulnerability to and protection from obesity among Mexican-origin children from different generations is dependent on the combination of generation, gender, and age.

Results

Table 1 presents the odds of obesity by ethnicity and generational status for all children, boys, and girls. We show estimates of obesity from models without (panel 1) and with (panel 2) control variables. A "W" superscript indicates differences between Mexican-origin youth and whites. Numerical superscripts document generational differences in obesity among Mexican-origin children. The superscript "G" indicates gender differences in estimated results.

In panel 1, among all children, all Mexican-origin youth have higher odds of obesity than whites, and the second generation has significantly higher odds of being obese than the third-plus generation. The next two columns of panel 1 suggest that this finding is driven by results for boys, but not girls: the odds of obesity are not significantly higher for first-generation Mexican-origin girls than for white girls, and no significant differences in obesity are observed between second-generation and third-plus-generation girls.

Panel 2, which shows results from multivariate models, also indicates that findings for all children mask important gender differences. Figure 1 graphically depicts results in panel 2 by showing the predicted probability of obesity by generational status and

Table 1 Odds ratios from logistic regression models predicting obesity among Mexican-origin youth and non-Hispanic white children of natives, ages 2–15

	Panel 1: Unadjusted Models			Panel 2: Adjusted Models		
	All	Boys	Girls	All	Boys	Girls
Non-Hispanic White (ref.)	1.000	1.000	1.000	1.000	1.000	1.000
Mexican-Origin						
First generation	1.719^{W}	2.024^{WG}	1.393^{G}	1.497^{W}	1.905^{WG}	1.076^{G}
Second generation	1.784^{W3}	2.022^{W3G}	1.535^{WG}	1.723^{W}	2.078^{W3G}	1.367^{G}
Third+ generation	1.534^{W2}	1.566^{W2}	1.497^{W}	1.429^{W}	1.498^{W2}	1.340^{W}
N	10,547	5,311	5,236	10,547	5,311	5,236

Notes: Adjusted models include controls for age, living with a single female householder, householder's age, householder's education, household income to poverty level, NHANES survey year, interview language, mother's age at birth, and birth weight. Superscripts indicate gender differences and generational differences in obesity observed in supplementary analysis.

[W] Significantly different from non-Hispanic white children of natives: $p < .05$.

[1] Significantly different from first-generation Mexican-origin: $p < .05$.

[2] Significantly different from second-generation Mexican-origin: $p < .05$.

[3] Significantly different from third-plus-generation Mexican-origin: $p < .05$.

[G] Significant gender difference: $p < .05$.

Source: 1999/2001–2011/2012 NHANES.

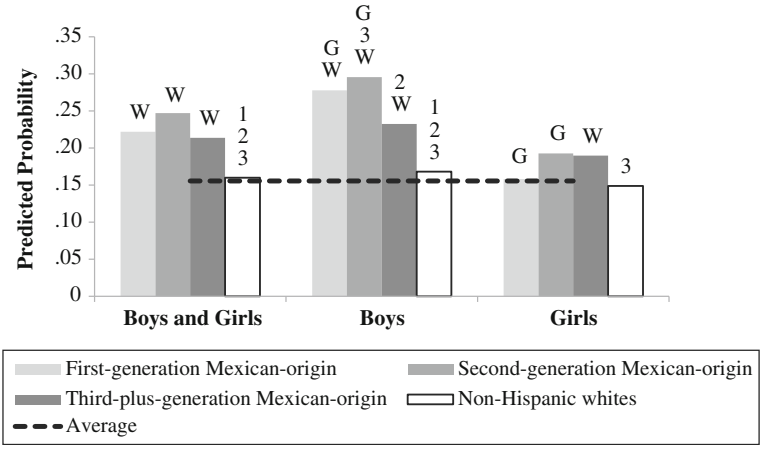

Fig. 1 Predicted probability of obesity by generation/ethnicity for all children, boys, and girls. *Source*: 1999/2001–2011/2012 NHANES. Predicted probabilities were calculated based on results from adjusted models shown in panel 2 of Table 1. Superscripts indicate gender differences in generational status and ethnic/generational differences across the total sample, boys, and girls. [W] Significantly different from non-Hispanic whites: $p < .05$. [1] Significantly different from first-generation Mexican-origin: $p < .05$. [2] Significantly different from second-generation Mexican-origin second generation: $p < .05$. [3] Significantly different from third-plus-generation Mexican-origin: $p < .05$. [G] Significant gender difference: $p < .05$

ethnicity for all children, boys, and girls when confounders are held at mean values. Among all children, generational status is not important. All Mexican-origin youth have a higher probability of obesity than whites. This finding masks between-gender differences among the first and second generations. First-generation girls' predicted probability of obesity is nearly half as large as that of their male peers and on par with that of white girls (and boys). Second-generation girls also have a lower probability of obesity than second-generation boys. As a result, no significant differences are observed in the predicted probability of obesity across generations of Mexican-origin girls. Among boys, however, the estimated probability of obesity is higher for the second generation than for the third-plus generation. Note that we find no between-gender differences in obesity among U.S.-born youth, regardless of ethnicity—a finding underscoring that gender is important for immigrant youth, not all Mexican-origin youth.

Additional models, graphically depicted in Fig. 2, show significant age variations in the association between ethnicity, generational status, and obesity among boys.[3] Among girls, patterns of obesity by generational status are relatively consistent across age. These results are shown in Online Resource 1.

Ethnic and generational differences in boys' predicted probability of obesity are wider among middle childhood–aged boys. Second-generation Mexican-origin boys have higher predicted probabilities of obesity than whites at every age tested, but their predicted probability of obesity is higher than that of third-plus-generation Mexican-origin boys only among those aged 12 and older. The predicted probability of obesity

[3] Predicted probabilities in Fig. 2 were produced from a model estimated for boys that included all covariates in the adjusted model shown in panel 2 of Table 1 and an interaction between generational status and age. We tested the significance of generational differences in the predicted values at ages 3, 6, 9, 12, and 15.

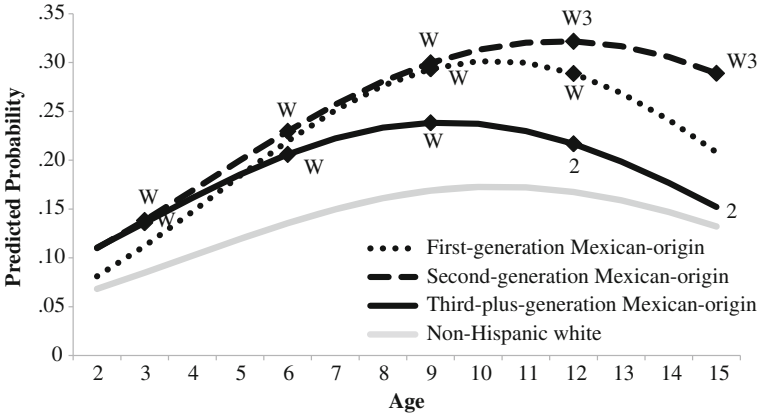

Fig. 2 Predicted probability of obesity by age and generation/ethnicity among boys. *Source*: 1999/2001–2011/2012 NHANES. Superscripts indicate ethnic/generational differences among boys at different ages. [W] Significantly different from non-Hispanic whites: $p < .05$. [1] Significantly different from first-generation Mexican-origin: $p < .05$. [2] Significantly different from second-generation Mexican-origin: $p < .05$. [3] Significantly different from third-plus-generation Mexican-origin: $p < .05$

for first-generation Mexican-origin boys is significantly higher compared with that of whites only among boys aged 9–12. Furthermore, by age 15, the predicted probability of obesity for both first-generation and third-plus-generation Mexican-origin boys is converging with the predicted probability of obesity for white boys of the same age.

Discussion

Although the epidemiological paradox has been a dominant paradigm in the literature on the health of Mexican immigrants, support for it has been less consistent and often contradictory in the case of children's health outcomes generally and childhood obesity specifically. We aimed to contribute to the literature on immigrant health by using obesity among Mexican-origin and white youth as a case study for considering heterogeneity in immigrants' protection from and vulnerability to U.S. health risks. We focused on gender and age differences in ethnic and generational patterns of obesity among Mexican-origin and white youth because the literature suggests that both factors shape exposure to the obesogenic U.S. society. Our results suggest that ethnic and generational patterns of obesity are not straightforward.

Among the total sample, all Mexican-origin youth appear vulnerable to obesity relative to whites, but this global pattern of Mexican-origin health disadvantage masks both between-gender and within-gender differences in obesity. Consistent with research expectations, between-gender differences in obesity are larger among children of Mexican immigrants than among third-plus-generation Mexican-origin youth and white youth. The significant gap between girls and boys is equally pronounced among both the first and second generations, contrary to our expectations. We posited that the gender gap could be larger among the first generation if first-generation girls were less exposed to U.S. society than second-generation girls.

Consistent with research expectations, ethnic and generational differences in obesity are less stark among girls than among boys. The predicted probability of obesity for Mexican-origin first-generation girls is substantively and statistically nearly the same as that for U.S.-born white girls. Second-generation and third-plus-generation Mexican-origin girls have a higher predicted probability of obesity than white girls, although this difference is significant only among the third-plus generation. In addition, among all girls, the gap between the heaviest and the leanest ethnic/generational groups is far smaller (a difference in the estimated probability of about .04) than the gap among boys (a difference of about .13). The gaps between whites and all generations of Mexican-origin boys are significant, with the largest gap observed between whites and the second generation, who are also significantly heavier than the third-plus generation.

Previous research has suggested gender differences in obesity risk among children in immigrant households (Balistreri and Van Hook 2011; Van Hook and Baker 2010). Our findings replicate this gender difference among Mexican-origin youth and show that it is evident among first- and second-generation youth. However, disaggregating the first and second generations highlights that the probability of obesity for first-generation girls fits the epidemiological paradox, but the probability of obesity for first-generation boys clearly does not.

Our final research expectation was that wider ethnic and generational differences in obesity would be observed among older versus younger boys, but that this trend would not be evident among girls. Our findings partially supported this notion. Ethnic and generational patterns in obesity were widest among middle childhood–aged boys. Furthermore, second-generation Mexican-origin boys were significantly heavier than whites at every age tested and were heavier than third-plus-generation Mexican-origin boys at ages older than 12. Thus, second-generation boys of all ages appear to be more vulnerable to obesity, but among adolescents, their probability of obesity is exceptionally high. First-generation Mexican-origin boys were significantly heavier compared with white boys only at middle childhood ages. The lower probability of obesity among older first-generation boys likely results from labor force participation and the arrival of new first-generation immigrants who still have limited U.S. exposure. In supplementary analyses of NHANES 16- to 19-year-old first-generation Mexican-origin boys, labor force participation did explain this downturn, but we could not test this for younger teens because labor force participation data are not available for respondents under age 16.

The heterogeneity in ethnic and generational patterns in obesity that we found among Mexican-origin and white youth highlights the need to consider factors that intensify or lessen the risk of obesity among children in immigrant families and the health risks of all immigrants more generally. We focused on gender and age as a case study because they shape children's exposure to U.S. society and their ability to make independent decisions and choices. Our results suggest that interventions aimed at reducing obesity among Mexican-origin boys may want to target boys in immigrant households generally, and elementary and junior high school–aged first- and second-generation boys in particular. Pediatricians may also want to discuss obesity and its health risks with parents of boys in immigrant households.

Future research should consider other factors that intensify or lessen vulnerability to obesity among children in immigrant households. For example, country of origin likely matters. We focused on Mexican-origin youth because they are the largest U.S. immigrant group of children in the United States. Patterns of obesity among children of

immigrants from other countries may look different, as has been suggested by Harris (1999) and in work showing different generational patterns in childhood obesity for those originating from richer versus poorer countries (Van Hook and Balistreri 2007). Patterns of childhood obesity by generational status may also vary by U.S. region or state of residence. For example, Buttenheim et al. (2013) found that among 4- to 17-year-olds in California, first- and second-generation Mexican-origin youth were not more likely to be overweight than third-plus-generation coethnic peers; instead, the first and second generations were heavier than the third-plus generation only among Mexican-origin young men aged 18–24.

Our results also point to the need for future research to consider more generally how the characteristics of immigrants (and immigrants' families and their social contexts) intersect in meaningful and important ways that differentially expose them to or protect them from health risks. Scholars have been increasingly making this call, pointing to differences in the applicability of the epidemiological paradox for different health outcomes and immigrants with different migration histories (Acevedo-Garcia and Bates 2008), the potential importance of intersectionality (Viruell-Fuentes et al. 2012), and differences by maternal age in how the paradox applies to infant mortality (Powers 2013).

This study's strength lies in its use of the NHANES data. We were able to pool a large enough sample of Mexican-origin children in immigrant households to disaggregate first-, second-, and third-plus-generation Mexican-origin youth by gender and age. Further, the NHANES includes measured assessments of height and weight, rather than parent- or child-reported data, along with data on important confounders including children's birth weight and sociodemographic characteristics of adults in the household.

That said, our results must be considered in light of the study's limitations. Because our analysis pooled cross-sectional NHANES studies across years, the results must be interpreted as descriptive and not causal. Further, patterns of obesity by age cannot be interpreted as developmental differences in obesity trajectories because the NHANES does not follow individuals across time. We also cannot detect cohort differences in age-based analyses. In addition, generational status indicates the country of origin for the children and householder, but we cannot be certain that the householder is a child's parent. We are confident that first-generation children born outside the United States are identified appropriately, but it is possible that some second-generation and third-plus-generation children are misclassified. Such misclassifications would mute estimated differences in the probability of obesity between these groups, making predicted differences between the second-generation and third-plus-generation conservative. However, findings for second-generation children are consistent with those of previous research (Baker et al. 2015; Balistreri and Van Hook 2011; Van Hook and Baker 2010), and our analysis of the American Community Survey suggests that for 85 % of Mexican-origin children, the householder is a parent. Finally, the NHANES does not have good measures of acculturation, so we cannot explore its role in producing our findings.

Despite these limitations, we showed that gender and age are important considerations for understanding generational patterns of obesity among Mexican-origin youth. More broadly, our results suggest that caution is warranted about assuming that generational patterns of obesity, other health outcomes, or health acculturation are constant across all children in immigrant households and among immigrants more generally. General population-level assessments of immigrant health are both important

and necessary, but we join recent voices calling for more thoughtful consideration of how the contours and differences in the experiences of immigrants may lead to more heterogeneity in immigrant health outcomes than currently understood.

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Appendix

Table 2 Descriptive statistics for all children, by children's ethnicity/generational status

		Mexican-Origin			
	All Children	First Generation	Second Generation	Third+ Generation	Non-Hispanic White
Obese (% BMI ≥95th percentile)	15.5	21.9	22.5	20.0	14.0
Age (mean)	10.7	10.7	10.7	10.7	10.7
	(5.2)	(5.3)	(5.3)	(5.1)	(4.3)
Gender (% boys)	51.2	52.3	51.0	49.5	51.4
Female Householder (%)	43.0	32.3	41.1	50.7	42.8
Age of Householder (mean)	39.8	39.8	39.8	39.8	39.8
	(18.6)	(15.5)	(17.8)	(16.2)	(15.4)
Householder's Education (%)					
Less than high school	7.8	51.0	42.2	5.8	2.3
High school	12.9	23.0	27.5	21.1	9.9
Some college	24.3	14.6	17.6	28.7	25.0
College+	55.1	11.4	12.7	44.4	62.8
Family Income-to-Poverty Ratio (mean)	2.5	2.5	2.5	2.5	2.5
	(5.3)	(1.4)	(1.9)	(2.8)	(4.4)
Survey Year (%)					
1999	13.4	10.5	10.5	14.1	13.8
2001	13.9	14.4	11.2	12.6	14.3
2003	14.5	14.0	12.5	13.8	14.8
2005	14.8	18.6	13.7	14.6	14.8
2007	14.3	13.0	15.9	14.4	14.1
2009	14.6	11.1	17.9	16.1	14.1
2011	14.6	18.5	18.3	14.4	14.0
Low Birth Weight (% <2,500 g)	6.3	10.2	6.0	8.0	6.0
Normal Birth Weight (% 2,500–4,000 g)	84.6	82.6	86.4	85.0	84.4
High Birth Weight (% >4,000 g)	9.1	7.2	7.6	7.0	9.5
Age of Mother at Birth (%)					
<20	10.6	24.4	13.6	18.4	9.0
20–24	24.0	34.9	30.5	32.6	21.9

(continued)

	All Children	Mexican-Origin			Non-Hispanic White
		First Generation	Second Generation	Third+ Generation	
25–29	28.4	21.8	28.2	27.3	28.7
30–34	23.9	12.3	18.0	13.5	26.1
35–39	10.8	5.8	8.0	6.6	11.7
40+	2.3	0.8	1.7	1.5	2.5
Non-English Interview (%)	11.1	84.7	69.5	8.2	1.6
First-Generation Mexican-Origin (%)	2.5				
Second-Generation Mexican-Origin (%)	10.1				
Third+-Generation Mexican-Origin (%)	7.8				
Non-Hispanic White (%)	79.6				
N	10,547	737	2,810	2,098	4,902

Note: Standard deviations are shown in parentheses.

Source: 1999/2001–2011/2012 NHANES.

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